

Petroleum Coke Storage — In St. Croix, US Virgin Islands, Hovensa Coker Storage, Bechtel Corp. has two 254' x 127' Monolithic Domes. With a capacity of 40,000 metric tons, they're the world's largest petroleum coke storages. After this photo was taken, an equipment tower and conveyor system was set on top of the domes. The weight allowance was one million pounds.

Story: [A Little History and A Lot of Photos of Monolithic Dome Storages](#)

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## Pittsburg Coke Storage Domes

### Pittsburg Marine Terminal, Pittsburg, California

**Client:**

Dome Systems, Inc.

**Date:**

Construction completed 1997

**Scope of work:**

Design and Contractor Support

**Construction cost:**

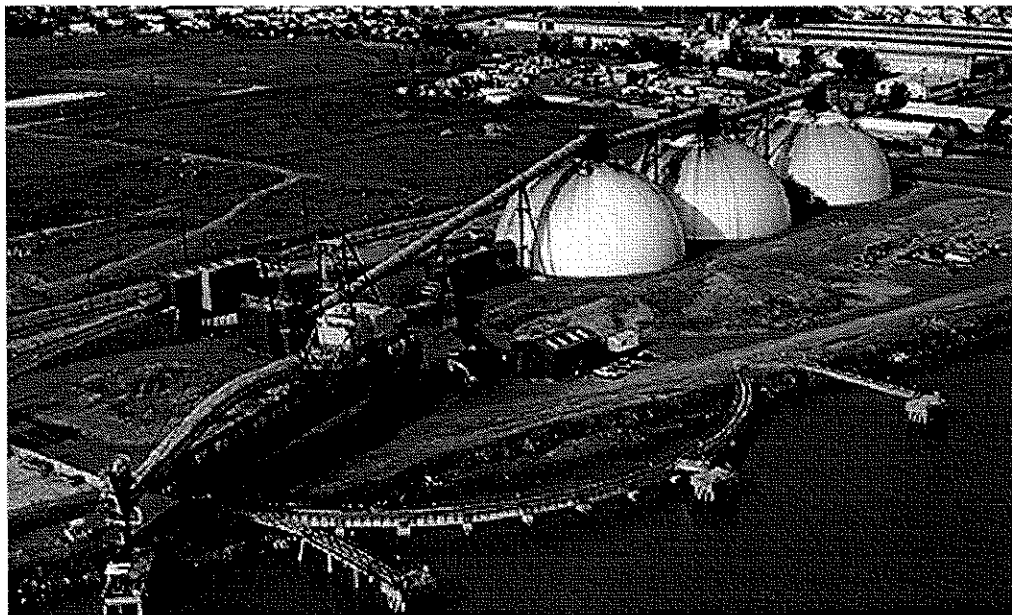
US\$ 2,000,000

**Services Performed:**

- Pre-bid engineering support
- Final design
- Seismic analysis

**Issues:**

- Design and analysis of an airform reinforced concrete dome
- Seismic analysis and design of a concrete shell with contained fill on a soft soil site
- Close working relationship with design/ build contractor



Pittsburg Marine Terminal, Pittsburg, California, located on the Sacramento River at its confluence with San Joaquin River in the Sacramento Delta, consists of three reinforced concrete 160 foot diameter hemispherical domes which store petroleum coke produced at nearby oil refineries. Foundations consist of circumferential ring beams, while reclaim is made through conveyors in tunnels running beneath the domes. The coke product is placed into the domes through apex openings, while ground level access is provided by a 24 ft. x 16 ft. entry in the dome shell.

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## LAXT Coke Storage Domes

### Los Angeles Export Terminal, San Pedro, California

**Client:**

Dome Systems, Inc.

**Date:**

Construction completed 1999

**Scope of work:**

Design and Contractor Support

**Construction cost:**

US\$ 12,000,000

**Services Performed:**

- Pre-bid engineering support
- Final design
- Seismic analysis

**Issues:**

- Design and analysis of an airform reinforced concrete dome
- Seismic analysis and design of a concrete shell with contained fill on a soft soil site
- Close working relationship with design/ build contractor



Los Angeles Export Terminal, San Pedro, California, consists of two 75,000 ton capacity petroleum coke storage domes. Each dome is 240 feet in diameter and 130 feet high. The common reclaim tunnel beneath the domes is over 630 feet long and contains the loadout conveyor which transfers the petroleum coke from each of the storage domes to the ship loading system. Both dome foundations and the reclaim tunnel penetrate and are sealed to an existing dual layer membrane which maintains an environmental seal throughout the site. Reclaim from the storage domes is done using vibratory reclaim cones, which deposit the product onto the common reclaim conveyor under the domes. A common entry ramp between the domes allows for end loader and maintenance access. Personnel access to the top of the domes is via the fill conveyor system or the elevated ramp and escape stairs between the domes.

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